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TURN POINTS IN THE AIR
USING HISTORICAL EXAMPLES TO ILLUSTRATE USAF
DOCTRINE

by

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14. ABSTRACT This paper will examine how history is currently used in promulgating doctrine, and offer suggestions where appropriate. Specific questions to be examined are: (1) Is there evidence to support the hypothesis that airmen have over the last several decades developed an anti-doctrinal bias? (2) If there is evidence of such a historical bias, does the current Air Force culture retain this bias? (3) If so, what procedural steps should be implemented in order to reverse such a bias? (4) In what ways can historical examples prove useful in the doctrine process? (5) What elements of doctrine should be supported with historical illustrations? (6) Can these illustrations be used to assemble a comprehensive anthology of the Air Force's major doctrinal shifts? and (7) How can the Air Force best present historical examples within the doctrinal manuals? Research for this project was conducted by reviewing appropriate historical literature and through personal discussions with select personnel in the Center for Aerospace Doctrine, Research and Education (CADRE) currently developing formal operational level doctrine. There is ample evidence to suggest that the Air Force retains a long-standing antidoctrinal bias, at least at the basic and operational levels. This bias has resulted in an institution that places little value on the significance of doctrine. Procedural corrections are offered in order to correct how the Air Force organizes, writes, and promulgates doctrine. The anti-doctrinal bias has also contributed to a lack of historical examples to illuminate its doctrine. Without such examples, a number of problems surface that make the Air Force less effective. Probably the worst of the problems is that it is ill-equipped to judge the validity of its doctrine and to recognize the need for adjustment when conditions change beyond the current framework in which today's doctrine has been tested. The need is for historical examples to illustrate all types of doctrinal principles, in the broadest sense of the word. Methods are offered to help ensure all major doctrinal principles are appropriately illustrated and optimally presented in a manner to improve the memorability of doctrine, its understandability, and its utility as a reference. Using these suggestions, doctrinal writers should be able to assemble a comprehensive anthology of the Air Force's major doctrinal shifts. While the 1992 edition of Air Force Manual 1-1 provided some historical documentation, that documentation, and the documentation of the Air Force's operational doctrine, could be significantly improved using the methods offered.				
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Preface

The idea for this project first took shape while I was a student at the U.S. Army's Command and General Staff College. Through my studies there it became obvious that the Army put a great deal more effort into developing and promulgating its doctrine than did my own Air Force. Its officer corps had a broader-based understanding of the proper uses of its type of military power. I also found the Army's doctrinal publications to be both more clearly written and better illustrated with historical examples than ours.

In looking at our past, it is clear that doctrine has unfortunately had a troubled history in our Service. Doctrine development has been a sort of step-child. This responsibility has been passed from one organization to another so frequently that little work was ever actually accomplished. The Air Force has recently taken a critical look at itself, and recognized its shortfalls in this area.

Thus today the Air Force is currently in the throes of attempting to reinvigorate its doctrine. General Ronald Fogleman, our Chief of Staff, has re-established the USAF Doctrine Center at Maxwell AFB, where it is collocated with the Air University and its many resources. It reports directly to the Chief of Staff.

Also part of the effort to reinvigorate Air Force doctrine are two doctrine writing efforts: an overdue update to its basic doctrine (Air Force Manual I-I, expected to be renumbered as Air Force Doctrine Document-1[AFDD-1]), and a draft of its central operational doctrine (AFDD-2). As these efforts get underway, now is an especially

appropriate time to present proposals on how to improve the manner in which doctrine is presented in these documents. Hopefully the ideas contained in this paper on how to better use historical examples to illustrate doctrine in order to make it more understandable and memorable can be of benefit to the writers of our Service's doctrine.

A special thanks is due to Dr. Mowbray for his considerable assistance in preparing this paper.

Abstract

This paper will examine how history is currently used in promulgating doctrine, and offer suggestions where appropriate. Specific questions to be examined are: (1) Is there evidence to support the hypothesis that airmen have over the last several decades developed an anti-doctrinal bias? (2) If there is evidence of such a historical bias, does the current Air Force culture retain this bias? (3) If so, what procedural steps should be implemented in order to reverse such a bias? (4) In what ways can historical examples prove useful in the doctrine process? (5) What elements of doctrine should be supported with historical illustrations? (6) Can these illustrations be used to assemble a comprehensive anthology of the Air Force's major doctrinal shifts? and (7) How can the Air Force best present historical examples within the doctrinal manuals?

Research for this project was conducted by reviewing appropriate historical literature and through personal discussions with select personnel in the Center for Aerospace Doctrine, Research and Education (CADRE) currently developing formal operational level doctrine.

There is ample evidence to suggest that the Air Force retains a long-standing anti-doctrinal bias, at least at the basic and operational levels. This bias has resulted in an institution that places little value on the significance of doctrine. Procedural corrections are offered in order to correct how the Air Force organizes, writes, and promulgates doctrine.

The anti-doctrinal bias has also contributed to a lack of historical examples to illuminate its doctrine. Without such examples, a number of problems surface that make the Air Force less effective. Probably the worst of the problems is that it is ill-equipped to judge the validity of its doctrine and to recognize the need for adjustment when conditions change beyond the current “framework” in which today’s doctrine has been tested. The need is for historical examples to illustrate all types of doctrinal “principles,” in the broadest sense of the word. Methods are offered to help ensure all major doctrinal principles are appropriately illustrated and optimally presented in a manner to improve the memorability of doctrine, its understandability, and its utility as a reference. Using these suggestions, doctrinal writers should be able to assemble a comprehensive anthology of the Air Force’s major doctrinal shifts.

While the 1992 edition of Air Force Manual 1-1 provided some historical documentation, that documentation, and the documentation of the Air Force’s operational doctrine, could be significantly improved using the methods offered.

Chapter 1

A History of Doctrinal Neglect

A wise man learns from his experience; a wiser man learns from the experience of others.

—Confucius

“Doctrine” remains one of the most feared words in the language of America’s Air Force. When brought up as a topic for discussion, it raises an unnecessary anxiety in all airmen. There are at least three reasons for this uneasiness. First, many airmen do not understand what doctrine is. Second, many airmen are not familiar with even the core elements of their Air Force doctrine. And third, many are not prepared to discuss or apply doctrine. This stems most from the fact that discussing or applying doctrine requires an appreciation of doctrine’s underlying concepts and limitations that can only be gained through an understanding of air power’s historical experiences—an appreciation held by few airmen.

Definitional Shortcomings

Attempting to identify the correct definition of doctrine is usually a frustrating and confusing effort. As one of the Air Force’s experts on the history of doctrine put it, “Adding additional complexity to any attempt to analyze basic Air Force thought patterns is the fact that terms used to categorize fundamental Air Force beliefs apparently varied

with the person using them and certainly varied with the time period in which the terms were employed.”¹ This statement is especially true with respect to doctrine. To help put the magnitude of this problem into perspective, a review of the glossary of the latest (March 1992) edition of Air Force Manual (AFM) 1-1, Basic Aerospace Doctrine of the United States Air Force, shows that it includes numerous varied current and historical definitions for doctrine. Today, most airmen accept the joint definition which states that doctrine is the set of “fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application.”² Yet this does not appear to be a clear and concise definition. The problem seems to stem from the fact that, as a retired four-star general stated, “most complex concepts are much harder to define than to characterize.” Thus it does not seem surprising that in the supposed definitions there seems to be more characterization than actual definition.

Even the definition found in the introduction to AFM 1-1 combines definition with characterization: “Aerospace doctrine is, simply defined, what we hold true about aerospace power and the best way to do the job in the Air Force. It is based on experience, our own and that of others. Doctrine is what we have learned about aerospace power and its application since the dawn of powered flight. While history does not provide specific formulas that can be applied without modification to present and future situations, it does provide the broad conceptual basis for our understanding of war, human nature, and aerospace power. Thus, doctrine is a guide for the exercise of professional judgment rather than a set of rules to be followed blindly. It is a starting point for solving contemporary problems.”³ The introduction then goes on to expand

even further on that characterization. Doctrine is, then, as two Air Force writers succinctly put it, “what we believe about the best way to do things.”⁴

Unfamiliarity with Core Doctrine

Doctrine can be categorized into three broad groupings that parallel the three levels of war (strategic, operational and tactical). The highest level of doctrine is usually classified as “basic.” Operational level doctrine addresses the art of campaigning and conducting major air operations. Tactics, techniques, and procedures are the elements of doctrine which guide tactical activities. Given these categories all airmen ought to be familiar with both basic and operational doctrine, and well versed in the tactics, techniques and procedures necessary for fulfilling their particular function in the Air Force. As an institution, the Air Force has generally done well in the latter, but fallen short on educating the masses on basic and operational doctrine. Very little instruction on the core elements of doctrine has been offered in the Air Force’s accession and professional military education programs. Nor has there been an effort to provide this education within the operational units.

The inclination of airmen to identify with their particular job specialty or career area has contributed to a lack of motivation to study the core elements of the Air Force. As Lt Gen Michael McGinty recently put it, when offering the rationale for the Air Force’s proposed Air and Space Basic Course (also informally referred to as the Airman’s Basic Course), “When you ask a Marine, ‘What are you?’ the Marine says, ‘I’m a Marine.’ When you ask someone in the Air Force, they say, ‘I’m a pilot’ or a navigator, or a personnelist, or whatever. They don’t say, ‘I’m an airman.’ We need to change that.”⁵ A

common adage in the Air Force holds that the best way to advance is for an individual to do their best in their current job. This lends further credence to the propensity of airmen to focus on the technical skills specifically required by their current job at the expense of higher level knowledge, including doctrine.

There are other reasons airmen remain unfamiliar with elements of the Air Force's central doctrine. Especially early in its history, the Air Force was reluctant to put doctrine in writing because it was changing so rapidly. "An Air University study in 1948 stated that the major 'obstacle to writing air force doctrine in the past was the rapidity of the development of air power.'"⁶ The doctrine of air power was viewed as changing so rapidly that publication was discouraged. The result was basic doctrine which was updated only infrequently. What little operational doctrine existed was never updated after its 1950's publication (with the exception of a single manual written by Tactical Air Command in the late 70's). Thus what doctrine was available was usually out of date.

Another reason stemmed from historical dichotomies. The formal, published doctrine was frequently not the doctrine utilized when the Air Force was employed. This dichotomy sometimes stemmed from a failure to keep formal doctrine current with rapidly transpiring changes, as addressed above. At other times this dichotomy stemmed from internal struggles. The WW II doctrine of strategic bombardment represents a classic example of how an internal struggle led to the execution of a doctrine which differed from that which was published. The principles taught at the Air Corps Tactical School in the 30's lent great credence to a doctrine of strategic bombardment, while the formal doctrine (which had to be approved by Army ground commanders) focused almost exclusively on direct support of ground forces.

The organizational culture itself was the source of a final factor which contributed to a lack of knowledge about the Air Force's core doctrinal elements. Upon arriving at their units, new members often heard seasoned Air Force members ridicule any serious attempt to discuss doctrine. Over time the new airmen adopted the values of their older brethren, including this anti-doctrinal mindset. For all of these reasons an anti-doctrinal culture became an ingrained part of America's Air Force.

USAF Doctrinal History Abandoned

Even from within the small group of airmen familiar with the core elements of Air Force doctrine, only a small percentage could confidently discuss or apply that doctrine. The most prominent factor preventing this has been a lack of knowledge regarding air power's historical experiences. This has been a result of both a lack of motivation to study air power's history and a lack of usefully presented material. Many of the same factors which contributed to a reluctance to become familiar with the core doctrinal elements also contributed to these two difficulties. However, there were additional contributing factors as well.

The Air Force has always been America's high technology Service. In the early days, the focus was on maintaining the cranky machines which carried man aloft. The Air Service prized mechanics most in its recruiting. As the technology advanced, engineers became the Air Force's most sought after. Thus the leadership was full of people who enjoyed tinkering with their machines. These people, and the hands-on requirements of flight itself, pulled the organization away from more academic pursuits. As one Air Force officer noted in 1947, "Air activities have most often attracted men of active rather than

literary leanings. The Air Force has never boasted a high percentage of scholars.”⁷ The emphasis on and excitement surrounding advances in atomic weapons, electronic combat, avionics, and space since this statement was made have only supported continued emphasis on “doers” rather than “thinkers.”

Not only did the rapid change mentioned previously produce a reluctance to formally document doctrine, it also encouraged a forward focus. With events and doctrine changing rapidly, the past was perceived to be of doubtful benefit in constructing current or future doctrine. Air power’s large and frequent technological leaps seemed to minimize the value of past experience, offering hope for unparalleled results using entirely new methods of applying air power. As the current AFM 1-1 puts it, “The Air Force was ‘born’ looking toward the future.”⁸ When this predisposition was coupled with the fact that the Air Force has never been a depository for scholarly-minded individuals, it resulted in an almost single-minded focus on the future, with little attention paid to the past. Exacerbating this perception was air power’s short history, which today still fails to span its first 100 years.

Thus the Air Force as an institution has historically held doctrine in low regard. This has forged an Air Force whose culture today pays scant attention to its doctrine. Few truly understand what doctrine is, fewer grasp its core concepts, and still fewer have a sufficient understanding rooted in history to be able to defend, debate and apply basic and operational level doctrine.

Notes

¹ Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force*, 2 vols. (Maxwell Air Force Base, Ala.: Air University Press, December 1989), 1:3.

Notes

² Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, (1 December 1989), 328.

³ Air Force Manual 1-1, *Basic Aerospace Doctrine of the United States Air Force*, 2 vols. (Department of the Air Force, March 1992), 2:ii.

⁴ Colonel Dennis M. Drew and Donald M. Snow, quoted in *Ibid.*, 2:282.

⁵ Bryant Jordan, "More Like Marines?," *Air Force Times*, 11 November 1996, 53.

⁶ Evaluation Division, Air University staff study, "To Analyze the USAF Publications System for Producing Manuals," 13 July 1948, quoted in Futrell, 1:3.

⁷ Col Noel F. Parrish, "New Responsibilities of Air Force Officers," *Air University Quarterly Review*, 1, no.1 (Spring 1947):29-42, quoted in Futrell, 1:2.

⁸ Air Force Manual 1-1, 2: 223.

Chapter 2

An Anti-Doctrinal Bias Remains Today

The organization of men and machines into military forces does not necessarily mean that they are equipped and trained for the accomplishment, if necessary, of decisive action in war. For this, the discipline of a coherent body of thought appears to be indispensable.

—Eugene Emme

This long-standing anti-doctrinal mindset has adversely affected today's Air Force, and created an institution that only minimally values doctrine, especially that at the operational level.

Recent Evidence

The contention that doctrine is still not held in better regard is supported by more than just a gut feeling. Recently there have been other clear signposts. At a 1994 Air University symposium General Michael Dugan “held up a 16-page pamphlet that constituted an early version of basic doctrine and admonished” the Air Force to “get back to that brief statement of the essentials. General Dugan’s plea was further evidence that Air Force doctrine is not getting across as effectively as it should. Far too many officers still are not really familiar with the essence of our basic doctrine.”¹ This statement applies even more strongly to the Air Force when made regarding the broader set of all airmen and when including operational level doctrine. Lending further support is the

attention that Gen Ronald Fogleman has given this subject since he became the Chief of Staff of the Air Force.

The Air Force Needs Shared Doctrine

Despite the Air Force's current perceptions, doctrine can be of great value. All Air Force members should have at least a working knowledge of their organization's doctrine. Figuratively it represents what the organization stands for. Not all need an in-depth understanding—the level of knowledge required will vary with each airman's level of responsibility within the organization. But all need to understand it to some degree so they can defend, negotiate, refine and apply it at an appropriate level. This knowledge is especially useful in today's environment with its emphasis on reducing inter-service overlap in roles and missions and renewed emphasis on the development of joint doctrine. In addition, Air Force doctrine provides airmen a sense of mission, illuminating how an individual's efforts contribute to the defense of America.

The Air Force needs airmen who understand doctrine. Unfortunately, it is obvious that the approaches the Service has tried in the past in attempting to provide this broad doctrinal foundation have not worked. Specific problems need to be identified, and solutions proposed.

Notes

¹ Major General I. B. Holley, Jr., "A Modest Proposal: Making Doctrine More Memorable," *Airpower Journal* IX, no. 4 (Winter 1995): 15.

Chapter 3

Towards a Better Culture

Those who are possessed of a definitive body of doctrine and of deeply rooted convictions upon it will be in a much better position to deal with the shifts and surprises of daily affairs than those who are merely taking short views, and indulging their natural impulses as they are evoked by what they read from day to day.

—Winston Churchill

The efforts underway to establish a doctrine center and draft an operational level doctrine manual represent only two of the necessary actions if Air Force doctrine is to be current and available in the future. As the Air Force sets out to develop a new pro-doctrine culture, it must ensure its plan encompasses five important steps. It should: (1) build a proper organizational structure and doctrine process, (2) record its doctrine, (3) educate its personnel, (4) strongly value its doctrine, and (5) cement the improvements in place for the future by institutionalizing all four.

Structure and Process

The obvious place for the Air Force to begin is with its organization. The internal structure necessary for the element charged with the responsibility for doctrine must meet several criteria. First, it is critical that a single organization be charged with the overarching responsibility, Air Force-wide, for developing, writing, coordinating and

promulgating doctrine. Piecemealing doctrinal responsibilities has been tried in the past with disastrous results for the Air Force. In one example, Dr. Mowbray described such action that occurred four decades ago. He noted that although a branch of the Air Staff was to assume responsibility for oversight, “basic doctrine was nominally still to be the responsibility of Air University, while operational doctrine was now to be the responsibility of the major commands (MAJCOM). From here on doctrine would be the stepchild of whoever had responsibility for it at the moment.”¹ One organization must be vested with complete responsibility for Air Force doctrine.

Second, this organization should be high in the command structure in order to deal effectively across the Service and with the other Services. The doctrine center already meets this criteria, since it reports directly to the Air Force’s top officer, the Chief of Staff.

Third, the center must be strongly tied to the sources of doctrine. These sources are only of two types: historical experience and theoretical concepts.² This implies, and experience has proven the wisdom of, closely tying the doctrine center to both the academic and operational Air Force communities. These ties can be promoted primarily through physical collocation, establishment of liaison teams, frequent personnel visits, and electronic means. While placing the center near an Air Force Major Command (MAJCOM) headquarters would place it near one good source of doctrine, it would tend to isolate it from the others, which can lead to additional problems as explained below. This means that the doctrine center will have to rely upon means other than collocation in order to establish strong ties with the MAJCOMs. Placing the doctrine center at Maxwell Air Force Base as the Air Force has done places it at the site of the Air Force’s best

historical records and some of its best thinkers. This base's Air University Library and Air Force Historical Research Agency are unequalled as sources for the institution's historical underpinnings.

In addition, this location places the doctrine center near a large, unparochial source of brain power that it can tap into—the students of the numerous Air Force schools on this base. Relationships initially developed between students and doctrinal authors, if carried with the students into follow-on assignments, can become a secondary network into the staffs and field MAJCOMs. Another large group of thinkers and authors to help stimulate doctrinal discussions are the schools' instructors, both military and civilian.

And finally, the center must be physically situated such that no particular constituency has an advantage over other constituencies in promoting its own unique view of the “proper” application of air power. As General Fogleman recently reminded airmen, “In the end, the Air Force...turned doctrine development over to Tactical Air Command and the Army's Training and Doctrine Command. We sent the whole task to the Tidewater Virginia area, and the result was the doctrine of AirLand Battle. For a long period of time, we effectively lost sight of the fact that *AirLand Battle was a subset of Airpower doctrine and not the doctrine.*” [emphasis added]³

The Maxwell location meets these criteria, and should help to develop balanced, full-spectrum doctrine. The job that remains for the doctrine center is to develop strong bonds with the MAJCOMs, other operators and key Service leaders.

In developing a doctrinal development process, a formalized procedure must be established and adhered to in order to ensure doctrine moves forward and does not become bogged down in internal squabbling. This procedure should be cyclic over a

period of years, and should encourage constructive criticism and input from the field. The procedures should work proposals into packages, test, validate and coordinate them, and lead to publication of updated doctrine. This procedure must allow ample opportunity for the MAJCOMs to make input each step of the way, but the procedure must drive all parties toward consensus. It is unlikely that all MAJCOMs will be totally satisfied with the end product, but they should seek solace in the fact that today's doctrine will, in the not-too-distant future, reenter the revision cycle. After several initial rounds of coordination, a conference that unites MAJCOM and other experts in the final phase of the effort, similar to the process currently employed in revising the Air Force's tactics manuals ("3- series), would likely help move the effort toward closure.

Recording Doctrine

With the establishment of a well-defined organization and process, the Air Force must next record its doctrine. As is likely with many young institutions, for the past several decades the Air Force has kept reasonably current a robust set of tactical doctrine, at least for its combat aviators. Nearly every day this doctrine was used and refined—through daily training sorties, exercises, contingency operations, and, occasionally, combat employment. At the other end of the doctrine spectrum, basic doctrine has been less well defined. Since the air power theorists and prophets of the 20's and 30's the Air Force has used at least some basic doctrine in its quest for independence, continued existence and self-promotion. Air Force doctrine has been the most lacking between the basic and tactical levels, at the operational level. This body of doctrine has suffered

through numerous fitful starts and stops which only infrequently produced an operational level doctrine document.

In recording its doctrine, the Air Force must clear up the tremendous amount of parasitic confusion which now burdens its doctrine. The key is for the Air Force to develop and communicate a logical theoretical construct or structure around which readers can organize today's large mass of doctrine. This structure would need to spring from a clear, succinct definition of doctrine capable of standing on its own. This should be the first entry in the Air Force's doctrine document. In subsequent sections, the framers should develop a fuller understanding of doctrine by advancing the Air Force's characterization of doctrine. This characterization should at a minimum explain (1) why doctrine is important, (2) the sources of doctrine, (3) how doctrine is developed from these sources, (4) how doctrine should be applied (including warnings on dogmatic applications), (5) the functions which doctrine fulfills for the Air Force, and (6) the absolute need to keep doctrine current.

The doctrinal statements must then establish two further elements to complete this doctrinal framework: (1) how different levels and types of doctrine are interrelated, and (2) the need for historical documentation in doctrine.

In relating different levels and types of doctrine, the authors must show how comprehensive combat operations, comprehensive military operations other than war, comprehensive air power, specific U.S. military, and specific U.S. Air Force activities relate to one another. One construct suggests that doctrine should be divided into fundamental, environmental and organizational doctrine.⁴ Another way to organize the pool of doctrine is into packets representing each of the individual Services as well as one

for joint operations. A third way to organize the body of doctrine corresponds to the three levels of war—strategic (basic), operational and tactical. The Air Force must establish how it views the best way to organize its body of doctrine, and how this construct relates to America’s other Service and joint doctrines.

There are a number of ways the Air Force could organize this, but an approach that offers the clearest view of the interrelationships without delving into unnecessary and excessive subdivisions combines some of the methods listed above. Under closer examination, it becomes clear that “environmental” doctrine is in reality a type of fundamental doctrine, just one that is applied in a particular environment. For this reason the “environmental” descriptor is redundant and can be dropped, leaving just the fundamental and organizational-specific types of doctrine.

Thus, after the definition and characterization of doctrine, the drafters should first establish the doctrine that defines the proper applications of military power (fundamental). This would include such things as “beliefs about the purposes of the military, the nature of war, the relationship of military force to other power instruments,” and so on.⁵

Next the drafters should describe (or direct us to a description in a joint or other publication) the correct application of American military power (organizational). This would include a complete description of the American way of war, to include the perceived limits of support by the American people and U.S. government.

Third, the manuals should document the proper applications of air power (fundamental). This would include beliefs about the perceived spectrum of air operations

that can effectively coerce, deny or apply pressure against another state, the inherent advantages of air operations over surface operations, and so on.

And finally, as a subset of the third, the drafters should describe the Air Force's proper doctrine for the application of air power (organizational). This would include the U.S. Air Force's beliefs regarding the best way for America to use its air power, the core competencies of the Service, and so on. Lt Col Drew included in this category "roles and missions assigned to an organization, current objectives, administrative organization," and "force-employment principles as influenced by the current situation."⁶

Each of these four sets would need to address doctrine across the full spectrum of conflict. For Air Force purposes, the first three of these sets can probably be dealt with from the broad viewpoint of basic doctrine. The fact that many, if not most, of the principles discussed can be applied equally well at the operational and tactical levels of operation should be clearly addressed in the introduction. But the institution should be focused primarily on the fourth set—the Air Force's organizational doctrine. This doctrine should span all three levels basic, operational and tactical.

It seems likely that most users of the doctrinal manuals will approach it from the point of view that corresponds to their current responsibilities. For this reason, in order to produce the most useful publications, it seems that the three levels of doctrine should be used as the basis for dividing the body of doctrine into individual manuals or sets. Thus there would be one or more manuals for each of basic, operational and tactical doctrine.

The basic doctrine manual (or manuals) should, after addressing the definition and characterization of doctrine, address first the basic, fundamental military doctrine;

second, basic U.S. military organizational doctrine; third, basic, fundamental air power doctrine; and fourth, basic U.S. Air Force organizational doctrine.

In a separate series of manuals the Air Force should present its operational level doctrine. Because this is a larger body of doctrine, USAF organizational doctrine will likely need to include a capstone manual as well as additional separate manuals to provide a more detailed view of operational doctrine for specific mission areas. In similar fashion, the tactical series of manuals would comprehensively address organizational doctrine at that level.

The final element which all these manuals must address is the need for historical documentation of our doctrine. They must stress the need for doctrine's validity and limitations to be tested against historical experience.

Doctrinal Education of Air Force Personnel

Even if ongoing efforts to revitalize doctrine achieve their objectives, the process of promulgating the doctrine is likely to remain a tough challenge. Doctrinal education is critical. Helping meet this challenge will be the Air and Space Basic Course, a planned formal education program for new Air Force officers.

Whether taught in a separate Air and Space Basic Course, or in the existing accession programs, it appears likely that at least introductory doctrine will be taught to the Air Force's young officers. This alone will not ensure rapid promulgation throughout the Air Force. Officers currently in this Service must be educated as well. As Dr. Mowbray pointed out, doctrine "should be taught routinely, effectively, thoroughly, and with hands-on, get-your-hands-dirty exercises to thoroughly familiarize everyone with the application

of the doctrine in all possible situations from the cockpit to the JFACC level as determined by the officer's rank and experience.”⁷

One of the keys is to work this education, while simultaneously beginning to educate new accessions. The Air Force must put together a program to rapidly educate its current officer corps. Such a program would get the latest doctrine out to the field and help give it roots to anchor it in place. Then, ongoing activities should use doctrine as the primary tool to evaluate exercises, contingencies and other operations. Doctrine would need to take on an even stronger role in the curriculum taught at the Air Force's Professional Military Education schools.

Elevating Doctrine onto a Pedestal

Next, a number of actions would help achieve the fourth necessary step of elevating doctrine to a point where it is held in high regard. Airmen must place great importance on doctrine if it is to remain viable. This elevation must be at the heart of any attempt that is to be successful in reversing the current anti-doctrinal culture. Changing cultures is difficult, as the Air Force recently re-learned through its efforts to instill a Quality philosophy throughout its organization. One of the keys is to work the education from the top down. The only way to get “buy-in” is to get the leadership committed to doctrine as an important concept for the Air Force. This is more likely to occur when an individual sees that their boss places great value on doctrine. Leaders must establish incentive programs that reward those who incorporate doctrine most successfully into their activities. Leaders must encourage subordinates to freely recommend constructive

improvements to doctrine. Leaders must visibly demonstrate a strong commitment to doctrine over a sustained period of time if doctrine is to be elevated.

Collectively, the Air Force's anti-doctrinal bias must be reversed. This means the difficulties which ensue from attempting to change a culture must be overcome. It will take dedicated and sustained effort, as well as a sufficient period of time to achieve, but it is possible.

Locking Doctrinal Advances in Place

Elevating doctrine to a position of prime importance will go a long way toward institutionalizing doctrine—but it alone is insufficient. The other factor that doctrine needs right now in the Air Force is stability. The responsibility for doctrine has been passed frequently from one Air Force organization to another. This has remained true even in the last few years. With the relocation of the Air Force Doctrine Center from Langley AFB to Maxwell AFB in 1997, yet another move has been chalked up since Dr. Mowbray in frustration pointed out that the doctrine process “has been moved one more time. The writing of basic doctrine is in its fourth location, and operational doctrine is in its fifth or sixth location.”⁸ Now it is fifth, and, sixth or seventh locations, respectively. This represents far too much turmoil in a process that lacks firm roots.

The Air Force must resist the temptation to shift responsibility again until a pro-doctrinal culture has taken root. The next several generations of senior Air Force leaders must ensure stability while continuing to visibly promote doctrine.

The Air Force is already pursuing many individual actions that are required within the steps of building a proper organization and process, as well as recording, educating,

elevating and institutionalizing doctrine. If fully pursued as outlined above, these five steps will, over time, reverse the anti-doctrinal bias. They will clearly provide the Air Force with airmen who understand the definition of doctrine. But, the approach to using history in the recording and educational steps will significantly determine to what extent the Air Force is successful in developing airmen who grasp their doctrine's core concepts and who are able to defend, debate and apply basic and operational level doctrine.

Notes

¹ Dr. James A. Mowbray, "Air Force Doctrine Problems: 1926-Present," *Air Power Journal*, Winter 1995, 30-31, and Futrell, 2:162-163.

² Lt Col Dennis M. Drew, "Of Trees and Leaves: A New View of Doctrine," *Air University Review*, January-February 1982, 41-42.

³ General Ronald R. Fogleman, "Aerospace Doctrine: More than Just Theory," *Airpower Journal*, Summer 1996, 41.

⁴ Lt Col Drew, 43-48.

⁵ Ibid., 43.

⁶ Ibid., 45.

⁷ Dr. Mowbray, 38.

⁸ Ibid., 36.

Chapter 4

Doctrine Demands Historical Reference

Officers no longer look upon history as a kind of dust heap They go to it as a mine of experience where alone the gold is to be found, from which right doctrine—the soul of war—can be built up.

—Julian Corbett

History can greatly assist airmen in their pursuit of a fuller working understanding of doctrine, if used correctly in presenting and reinforcing it. If neglected, it can be a major obstacle to such learning. Airmen need a robust historical understanding of their doctrine.

The Quagmire of Generalities

The avalanche of principles, tenets and propositions needed to comprehensively address Air Force basic and operational level doctrine can quickly become a formless, gelatinous quagmire. Grasping and retaining a working knowledge of these principles is a daunting task for most airmen. The system of promulgating doctrine has proven insufficient to overcome the institutional anti-doctrinal bias. As Gen Holley points out in his article, “A Modest Proposal: Making Doctrine More Memorable,” in the winter 1995 edition of the *Airpower Journal*, “The way we articulate doctrine is flawed.” Air Force

“doctrinal manuals consist largely of generalizations. They offer page after page of abstractions.”¹

As anyone who is familiar with how humans learn will point out, abstractions are difficult to mentally process and “file away” for later recall. The way human brains process information necessitates something of a more concrete “example” to latch onto. “Abstractions don’t stick in the mind as well as real-life illustrations or historical examples.”² The plain fact is that humans learn best through concrete examples.

Making Doctrine More Memorable

Gen Holley further suggests that the Air Force needs to develop a format for the doctrinal manuals that conforms to “how the human mind works. Much experience has shown that we find it easier to recall specific examples—historical instances—than purely abstract generalizations.” Doctrinal manuals should include an illustrative example for each doctrinal idea presented.³ Gen Holley has offered the key to making doctrine both easier to internalize and recall.

Additional Benefits from Using Historical Examples

In addition to making doctrine more memorable, the use of historical examples as illustrations also directly attacks the airman’s all-too-common lack of doctrinal understanding which has resulted from insufficient historical knowledge. There is also a third, important benefit. Airmen should be familiar with their Air Force history because with such knowledge comes increased esprit-de-corps. The realization that all airmen share a common heritage will foster pride and can be applied to promote a sense of tradition. Thus the use of historical examples to illustrate doctrine will promote esprit-

de-corps, and more importantly, will help airmen both understand and internalize doctrine.

Problems with Current Examples

Lieutenant General Charles G. Boyd “pushed the edge of the envelope” when he called the current edition of AFM 1-1 the Air Force’s “first documented doctrine.”⁴ It may be “documented,” but it surely is not “completely documented!” For although there are some historical examples included in the manual, they are inadequate for a number of reasons. First is the fact that there are relatively few illustrations. Second is the fact that they are buried in the explanatory collection of lengthy essays in Volume II. Third, the vast majority are addressed only in the footnotes. Between the corresponding text in the two volumes and the footnotes this becomes so disjointed that few read to that level of detail. Fourth, the examples offered are inconsistent in their level of detail and there appears to be no standardized format. Fifth, the majority of the illustrations included are used to illustrate types of missions, missing out on the potential use to illustrate the other broad categories of principles. Finally, the illustrations fall far short of giving a comprehensive overview of Air Force history. Readers without other knowledge of the history of air power are left with large gaps in their knowledge.

Notes

¹ Maj Gen Holley, 15.

² Ibid.

³ Ibid.

⁴ Lieutenant General Charles G. Boyd and Lieutenant Colonel Charles M. Westenhoff, “Air Power Thinking: ‘Request Unrestricted Climb,’” *Airpower Journal*, Fall 1991, 14.

Chapter 5

Selecting Historical Examples

Research does bring to light those fundamental principles, and their combinations and applications, which, in the past, have produced success.

—Douglas MacArthur

The choices made in selecting historical examples can have a profound impact on how well readers learn the Air Force’s doctrine. The best set of historical examples will take into account the nature of the principles to be illustrated, the range of both positive and negative examples, and the key events in the Air Force’s history. Careful selection of examples should illustrate all broad doctrinal generalizations with sufficient examples to allow airmen to understand each idea’s key elements. If the examples are selected from throughout the organization’s lifespan they can additionally serve as markers tracing its history. Key to fulfilling these three requirements is a structured approach.

The Broad Nature of Doctrinal “Principles

First, the nature of the principles of doctrine must be clearly understood. Considering both basic and operational doctrine, the heading of “principles” actually incorporates a broad range of items that includes tenets, propositions, axioms, principles, concepts, roles, objectives, tasks, missions, attributes, visions, capabilities, competencies, and so on. Attempting to specifically address which elements the Air Force will include

in its basic doctrine, and which it will include in its operational doctrine, would largely be conjecture since at this time both manuals are in a state of flux. Both will go through considerable review, and in fact have already started down this avenue. Both have a long way to go before they will be ready for publication.

Categories of Principles

There is likely to be much revision and shuffling as the Air Force leadership reaches consensus on what constitutes the core elements of its doctrine at each of the two doctrinal levels—basic and operational. Nonetheless, it is likely that many of the principles in the current AFM 1-1 and, to a lesser extent, the draft AFDD-2, will remain somewhere within these two groupings. The broad categories of principles (and abbreviations to be used later in this document) that will likely be retained include the:

- Principles of War (P of W)
- Characteristics of Air (Aerospace) Power (Char's)
- Air Force's Roles (Roles)
- Air Force's Missions (Msns)
- Air Force's Core Competencies (Comp's)
- Tenets of Air (Aerospace) Power (Tenets)

Some of these are unlikely to change from their current construct, while some likely will. Those least likely to change are the principles of war, the Air Force's roles, and the Air Force's core competencies.

Principles of War

The current principles of war have historical roots in the US Army. "The list we have today is essentially the 1921 US Army list (movement is now called maneuver and cooperation is now called unity of command)."¹ The list includes nine principles:

- Objective (Obj)
- Offensive (Off)
- Mass
- Economy of Force (Econ)
- Maneuver (Mnvr)
- Unity of Command (UC)
- Security (Sec)
- Surprise (Sur)
- Simplicity (Simp)

Roles

Like the time honored principles of war, the roles of the Air Force, given their small numbers and fundamental character, are not likely to change. The four fundamental roles of the Air Force are:

- Aerospace Control (AC)
- Force Application (FA)
- Force Enhancement (FE)
- Force Support (FS)

Core Competencies

The ink is hardly dry on the Air Force's current core competencies, so they are unlikely to change in the near future. They were announced in late 1996 by Gen Fogleman as part of the Air Force's Strategic Vision, "Global Engagement." They are:

- Air and Space Superiority (AS)
- Global Attack (GA)
- Rapid Global Mobility (GM)
- Precision Engagement (PE)
- Information Superiority (IS)
- Agile Combat Support (CS)

As the first core competency reflects, the Air Force is in a period of transition from an air force to an air and space force. Henceforth in this text references to the term "air power" include the broader scope of both air and space power.

Although alteration is more likely, the remaining three categories may or may not in fact actually be altered at this time.

Characteristics of Air Power

The characteristics of air power have been recorded in a variety of forms. A small sampling of the more recent thoughts in this area may put the likely changes in perspective. The Air Force's 1990 "Global Reach—Global Power" White Paper sparked a resurgence of interest in the Air Force's unique characteristics, which it listed as:

- Speed
- Range
- Flexibility
- Precision
- Lethality²

More recently, British thinking has listed air power's distinguishing characteristics as ubiquity, pace and perspective. These characteristics closely resemble a framework used in 1946 to investigate debates regarding air power's fundamental doctrine: "that the airplane possesses such *ubiquity*, and such advantages of *speed* and *elevation*, as to "³ [emphasis added]. Rounding out the recent British list of air power's major attributes of flexibility, responsiveness and penetration.⁴ In addition to these, other characteristics under consideration for inclusion in the Air Force's new list include versatility, maneuverability and mobility. Precision can be dropped from this list since it is now incorporated as a core competency. Lethality is not unique—and is assumed to be a capability of all military forces, so it too can be dropped. Thus, this leaves a robust potential list. While the final list of characteristics published by the Air Force could easily vary, the characteristics most likely will include:

- Perspective (Pers)
- Range (Rng)
- Speed (Spd)
- Flexibility (Flx)
- Versatility (Vers)
- Maneuverability (Mvrb)
- Mobility (Mob)
- Responsiveness (Resp)

Missions

There is also some potential for further revision to the Air Force missions. This should not be surprising since the current AFM 1-1 classifies this category as *typical* missions [emphasis added]. One potential catalyst for change is a perceived variance in the level of detail used to break out the missions. For example, the missions under force application seem broken out in more detail than those under force enhancement. The Air Force may want to break down the current listing of airlift to include listings such as deployment, routine sustainment, combat sustainment, and force extraction.⁵ While alteration of the list of Air Force missions is possible, it is too early and in such a state of flux as to make an accurate prediction of the revised list extremely difficult. Thus, the current list should be used until better insights can be gained. The current list, broken down by role, includes:

Aerospace Control:

- Counterair (CA)
- Counterspace (CtS)

Force Application:

- Strategic Attack (SA)
- Interdiction (I)
- Close Air Support (CAS)

Force Enhancement:

- Airlift (AL)
- Air Refueling (AR)
- Spacelift (SL)
- Electronic Combat (EC)
- Surveillance and Reconnaissance (SR)
- Special Operations (SO)

Force Support:

- Base Operability and Defense (OD)
- Logistics (Log)
- Combat Support (CS)
- On-Orbit Support (OS)

Tenets of Air Power

Finally, although it seems likely that the tenets of aerospace power will also evolve from their current AFM 1-1 format, it is again too early to predict the form these changes will take. One of the elements on the current list, “flexibility versatility,” is on the probable list of characteristics, so it can be removed here. This then leaves for tenets:

- Centralized Control/Decentralized Execution (CD)
- Priority (Py)
- Synergy (S)
- Balance (B)
- Concentration (C)
- Persistence (P)

Range and Scope of Examples

The promulgation of doctrine can benefit from taking into account both positive and negative historical examples. Sometimes doctrine was used properly and achieved the desired results, leaving a positive historical example. In other cases, doctrine improperly or inappropriately applied failed to achieve the ends desired. If, as Gen McPeak said,

doctrine “is what history has taught us works in war, as well as what does not,”⁶ then sufficient examples are needed to illustrate both proper and improper applications. Both types can contribute greatly to a reader’s understanding. This need for doctrine that spans both extremes was echoed by Gen Holley when he wrote that “historical experience provides the proof of what has worked and what has not worked.”⁷

In looking at historical experiences, some events are going to make better illustrations than others. The best examples will have a readily discernible linkage between the selected doctrinal element or elements and the results observed. Also desirable are those events that were smashing successes or overwhelming failures. Cases where a sudden change, often a 180 degree turn about, in Air Force operations either introduced the proper doctrine or brought the Air Force into compliance with existing doctrine may be some of the best examples. In these single vignettes often both the positive and negative examples are illustrated.

Some examples that should be used as illustrations do not come directly from the Air Force’s experiences. But in looking back at history, it is obvious that there were times that the Air Force learned from the experiences of others. Americans observations of events in the skies over Europe early in each of the World Wars are classic examples. That is not to suggest that the Air Force adopted everything that the other combatants upheld as their model. For example, as America entered World War II the Air Force subscribed to a strategic bombing doctrine of daylight attack of key industrial modes, even though they had witnessed the failures of both the British and the Germans, who had since moved on and adopted other bombardment doctrines. Thus, care must be taken when using illustrations from others to ensure that they actually reflect the subsequent

beliefs held by the Air Force. Thus, it is of overriding importance that historical examples be both valid and applicable to the United States Air Force in order to be used as illustrations.

Historical examples should be selected from throughout air power's history. Key periods of rapid doctrinal change are especially important. The key periods of employment by the Air Force include World War I, World War II, the Korean War, the Vietnam War, the Cold War, and the Persian Gulf War. There were as well numerous other contingency operations and foreign conflicts in which the employment of air power reinforced old or offered new doctrinal lessons.

Optimizing Selections

There is a systematic method which can be used to organize the massive quantity of potential examples, and allow the drafters to fulfill the numerous competing requirements in selecting historical examples. The first step is to build a matrix that highlights for all of America's key, specific aerial events, battles, or campaigns those principles (of various types) which show the strongest and clearest linkages to the results. In other words, this step will highlight the key concepts that enabled success or delivered failure, based upon the historical evidence available. The second step is to select from this large group the best examples to show the key elements of Air Force doctrine and when there were shifts in that doctrine. Enough examples should be used to highlight not only the central concepts, but also the limitations and constraints to the application of particular doctrinal elements. Also important to be illustrated are events that reduced those limitations and produced a more broadly applicable doctrine.

In assembling such a matrix, the terms used must be clearly understood in the minds of the users. The precise definitions for the principles listed above are to be found in the doctrinal documents or other texts referenced for each. Without a clear understanding of these terms, drafters will vary even more widely than they would otherwise in their concepts of what were the most important lessons to be extracted from the principles applied.

Table 1 is an abbreviated example of how such a table might appear. Due to space limitations in this text numerous abbreviations have been used. These tend to make the table a bit harder to digest due to the added need to “decipher,” so their use in the actual product should be minimized, or ideally, eliminated.

Table 1. Selected Historical Air Power Examples Through World War I

Date	Event	P of W	Char's	Roles	Msns	Comp's	Tenets
Sep 1914	First Battle of the Marne - (German Army discovered) ⁸		Pers	FE	SR	IS	
Aug 1914	First Battle of the Marne - (Paris) ⁹	Mnvr	Mvrb	FA FE	SA SO		C Py
24 Sep 1914	First Battle of the Marne - (Aisne River: Allied C2 of Arty) ¹⁰		Spd		SR (in real-time)		S
1916	Pancho Villa (Mexico)			FE FA	SR I	-CS IS	
late 1917 - 1918	London (attacked by Germany) ¹¹	Mass Obj Off Mnvr	Rng	FA	SA	GA	C PY

Table 1—continued

Date	Event	P of W	Char's	Roles	Msns	Comp's	Tenets
Sep 1918	St Mihiel ¹²	UC Mass Off	Flx Vers Mvrb	AC FA	CA CAS	CS	CD C P
Aug 1918	Meuse-Argonne ¹³	Econ UC Mass Off	Flx Vers Mvrb	AC FA	CA CAS	CS	CD C P
Oct 1918	Lost Battalion ¹⁴	Econ	Flx Resp	FE	AL	-PE CS	S P

Boldface in Table 1 is used to indicate the strongest of the discernible links between doctrinal principles and events. A minus sign (“-”) denotes a negative example.

Availability of Historical Documentation

In working through different periods of air power's history there will be additional considerations that must be taken into account. For example, the case above is probably the “leanest” time period for capturing good historical illustrations. There was no official effort on the part of the U.S. Army to capture the histories of the American units in the conflict. Many individuals, such as Billy Mitchell, came away from the conflict with emerging air power theories. Much of the emphasis, and resulting documentation, from the aerial battles glorified the gallant aviators as a new breed of soldier. This has resulted in a legacy heavily tilted toward a focus on individuals. For example, the section covering WW I in the Air Force Academy's basic knowledge book for cadets focuses almost exclusively on the exploits of the technological innovators such as Fokker and Garros, and of the aces, like Boelcke, Fonck, Lufberry, Rickenbacker and Richthofen. The bravery and skill of these young aviators is recounted in romanticized accounts of

individual engagements. Almost totally neglected are accounts of the larger applications of air power at the operational and higher levels.¹⁵ The only volume which covers WW I in the Time-Life “Epic of Flight” book series, “Knights of the Air,” as its title suggests, also shares a heavy emphasis on individuals and their exploits.

World War II clearly does not suffer from a lack of documentation and analysis. It remains the best-documented of America’s conflicts. However, the linkages between actions and results are probably the most controversial aspect of picking historical examples from this war. The strategic bombing survey and numerous other reports contain so much data that a case could probably be made to support just about any linkage of actions and results. But, if lessons are to be distilled, matrix drafters must reach consensus on those linkages.

Korea and Vietnam contain some very good lessons, especially on the limitations and constraints involved in the application of several doctrinal principles. The Gulf War has been analyzed through the Air Force’s efforts in producing the Gulf War Air Power Survey. However, doctrinal students must remain sensitive to the fact that as the Air Force has additional time to digest the results of this war the illustrations may need to be modified to take into account doctrinal shifts.

Natural Alignments of Examples to Principles

With respect to the principles themselves, there are some natural tendencies. The use of air power in its infancy was relatively simplistic. Experience prior to and during WW I often pointed the way to new mission possibilities in the application of air power. The best illustrations from this war are probably in the areas of roles, missions and perhaps

the principles of war. Other principles had to await the development of supporting technology. For example, spacelift was not possible until rocket propulsion advanced to the point that satellites could be placed in orbit. Stealth aircraft brought a deeper meaning to many principles such as mass and penetration. Precision engagement took on deeper meaning with the development of precision guided munitions and modern navigation systems, such as the global positioning system.

The space principles are probably the group that will have the fewest illustrative examples due to the limited nature of military space operations to date. However, that is not to say that it is non-existent, for there are many principles that already have been exemplified in America's space activities.

Historical examples from operations below the level of open warfare should be included where they can contribute to a clearer understanding of the principles and their limitations.

Recommendations for Presenting Examples

In applying the selected examples to the Air Force's doctrinal texts, there are some general rules regarding their format which can be expected to improve their readability. First, the examples should be located in physical proximity to the doctrine which they are supposed to illustrate. An exception could be made to this if the examples are not located in the same manual as the principles (such as the current AFM 1-1). However, if this is the case, the illustrations should be directly referenced in the primary doctrinal manual and the examples should not be buried in the footnotes.

Second, the examples should also contain at least four types of references. First, all known primary source references should be listed for the example given. Readers need to be able to dig deeper if they so desire. Second, other historical examples which illustrate the same fundamental principles should be listed. If the additional cases on this list are used elsewhere in the manuals as illustrative examples, then this cross-reference should include the appropriate page numbers. Third, for the given illustration, if additional principles are illustrated as well, they should also be listed. For example, a vignette describing how the Air Launched Cruise Missile attacks conducted by B-52s in the opening hours of Desert Storm illustrated the principle of Global Attack, would need to include a cross-reference to the principles of mass and penetration, since they were also illustrated quite well. And fourth, for the illustrative examples of a “main” statement of a doctrinal principle, there should be a listing of the corresponding, applicable constraining and limiting principles, along with where they can be found. For example, if an illustration was used to portray the mission of interdiction, then the examples from Korea and Vietnam that highlight the fact that if the enemy is not forced to consume supplies at a rapid rate then this mission is unlikely to achieve the desired results would be cross-referenced.

Finally, a third desirable trait for the illustrative examples is a standardized presentation format. Obviously there is no one correct format. One example was proposed by Gen Holley in his *Air Power Journal* article.¹⁶ But his example lacks some of the traits described above. Table 2 reflects a more robust and standardized format.

Table 2. Proposed Format for Illustrative Historical Example

DATE AND NAME OF HISTORICAL EVENT
DOCTRINAL PRINCIPLE (succinctly stated)
<p>CONTEXT:</p> <p>Strategic Situation (Forces and Dispositions)</p> <p>Technological Advances (if applicable)</p> <p>Desired Objectives and Likely Consequences of Failure</p> <p>Weather or Other Limiting Factors</p>
<p>EVENTS:</p> <p>Flow of Key Activities</p> <p>Results Achieved</p>
<p>ANALYSIS:</p> <p>How Principle was Applied</p> <p>Why this Illustrates Good/Bad Doctrine <i>or</i></p> <p>Why this Illustrates a Limitation of Doctrine's Applicability</p>
<p>REFERENCES:</p> <p>Primary Sources Used in Constructing this Historical Example</p> <p>Other Examples that Illustrate this Same Doctrinal Principle</p> <p>Other Principles this Example also Illustrates Well</p> <p>Other Limiting or Constraining Principles that Must be Additionally Considered(as applicable)</p>

Table 3, using fictional page numbers, depicts an illustrative example using this format:

Table 3: Example of Historical Illustration

EVENT: Nov 1916 - May 1918 WW I London Air Raids
PRINCIPLE: The Strategic Attack Mission
<p>CONTEXT:</p> <p>The WW I armies of both the Allies and the Central Powers were bogged down in slogging it out in trench warfare. In the air, the German fleet included large multiengined Gotha (and later Giant) bombers capable of placing a sizable bomb load on an area target. The Germans saw aircraft attacks on London and other British cities as a means to negatively impact war materiel production and to bring the war home to the British. The bombers had no capability to bomb through the weather, but did develop night attack procedures.</p>
<p>EVENTS:</p> <p>Germany launched its first aircraft raid, comprised of only a single bomber, on London in Broad daylight on 28 Nov 16. Although only minor damage and light casualties were inflicted on the British, this attack proved the feasibility of the strategic attack concept. The raids continued and rapidly grew in size. By Mar 17 the Germans were attacking in groups of 20 or more Gothas with good success, killing 162 in one of the raids. Mounting losses due to both defensive fighters and anti-aircraft artillery forced an end to daylight raids before the end of August. The raids were only conducted at night thereafter. Bomb accuracy was better on moonlit nights.</p> <p>Also after August the Giant bombers began to arrive on the Western Front. They continued the pattern of sporadic night raids on London and other British cities. Due to heavy losses (again due to both fighters and AAA) on a 19 May 18 raid, Germany abandoned the bombing of Britain.</p>
<p>ANALYSIS:</p> <p>The aircraft attacked targets in a manner designed to achieve strategic-level effects. One way this could be accomplished was by reducing the war materiel output from the factories. Bringing the war home to England might also break the “will” of the British people, and result in less support for the war. While the attacks did not significantly reduce British production, it did affect the population. It brought the war home, but with results that depict a doctrinal limitation. Attacks on a population often strengthen the resistance of the enemy population. In this case, war support was strengthened and an independent Royal Air Force was formed—not only to strengthen the air defense of London, but also to carry out reprisal raids. The British did in fact carry out numerous attacks on Germany’s more westernmost cities and military bases in the last few months of the war, although the conflict ended before planned aerial attacks of Berlin could be conducted.</p>

REFERENCES:

Primary Sources: Treadwell, Terry C. and Wood, Alan C. *The First Air War*. Washington: Brassey's, Inc., 1996.

Other Examples of this Principle:

Early WW I Zeppelin raids on Britain p. 15

Aug 14 German aircraft bombing raids on Paris p. 24

WW II Allied bomber raids on German homeland p. 37

WW I Allied incendiary raids on Japan p. 37

Gulf War F-117 attacks on Baghdad p. 62

Additional Principles which Limit the Application of this Principle:

Need for fighter escort of bombers: Schweinfurt & Regensburg p. 42

Need to be able to aim bombs at night: Battle of the Beams (Radar) p. 45

Cannot allow large enemy sanctuaries: Hanoi p. 57

Other Principles Illustrated in this Historical Event:

Principles of War: Objective, Offensive, Mass and Maneuver

Characteristics of Air Power: Range

Roles: Force Application

Core Competencies: Global Attack

Tenets: Priority and, Concentration

Lack of Persistence

Placement in Text

There are numerous viable options for placement of the examples in the text. Ideas include placement of “sidebars” within the text, split column (for example, doctrinal text on the left, corresponding historical examples on the right), facing page (for example, doctrinal text on odd numbered pages and corresponding historical examples on the facing even pages), or placement in an entirely separate volume. If constructed carefully, these and many other options will meet the essential requirement for presenting illustrative historical examples: the corresponding examples must be readily available for reference in conjunction with the doctrinal statement. If multiple steps are required to find the examples, such as going from the doctrinal statement in one location, to an

explanatory essay in another, to an example in an endnote or third location, few will go through the necessary effort to look them up. This is especially true for airmen having a long-standing “checklist” mentality as part of their organizational culture. From the doctrinal principle, historical illustrations must be easy to locate!

Tailoring the Scope of Examples

How many examples should be used as illustrations may vary. Using enough to illustrate all doctrinal principles and, for those that have them, each principle’s corresponding major limitations, will provide a comprehensive background. Not all airmen would necessarily need to be located in the “primary” text. The doctrinal manual might include a select group to serve as a sort of “primer,” or to address only those principles perceived to be the most contentious, with the remaining examples located in a supplemental text. However, the full range of examples should be published in a manner that makes easy their cross-reference to the corresponding doctrinal principles.

Notes

¹ Air Force Manual 1-1, 2:10.

² “The Air Force and U.S. National Security: Global Reach—Global Power,” an Air Force White Paper, (Headquarters USAF, June 1990), 1.

³ Edward Warner, “Douhet, Mitchell, Seversky: Theories of Air Warfare,” *Makers of Modern Strategy*, ed. Edward Mead Earle (Princeton, 1943), in David MacIsaac, “Voices from the Central Blue: The Air Power Theorists,” *Makers of Modern Strategy*, ed. Peter Paret (Princeton, N.J.: Princeton University Press, 1986), 629.

⁴ *The Dynamics of Air Power*, ed. Group Captain Andrew Lambert and Arthur C. Williamson (Bracknell, Berkshire, United Kingdom: Ministry of Defense, Royal Air Force Staff College, 1996), 4-9.

⁵ Current thinking of some of the experts working on the Air Force’s new operational doctrine, as discussed with the author.

⁶ Air Force Manual 1-1, 2:v.

⁷ Gen Holley, 19.

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⁸ Ezra Brown, *Knights of the Air*, (Alexandria, Va.: Time-Life Books, Inc., 1980), 36-37.

⁹ Ibid., 36.

¹⁰ Ibid., 37-38.

¹¹ Don Lawson, *Great Air Battles: World Wars I and II* (New York: Lothrop, Lee and Shepard Co., 1968), 113.

¹² *Knights of the Air*, 170.

¹³ Ibid., 171.

¹⁴ Don Lawson, *The United States in World War I*, (New York: Scholastic Book Services, 1963), 118.

¹⁵ *Contrails: The Air Force Cadet Handbook*, ed. Charles E. Schmeling, (United States Air Force Academy, Colorado: 1974), 16-24.

¹⁶ Gen Holley, 15-17.

Chapter 6

Assembling Historical Illustrations for Doctrine

A solid, comprehensive grasp of USAF doctrine—of what aerospace power is and how it can be fully exploited—is therefore essential to fulfilling our responsibilities to the country and to maintaining national security.

—Lieutenant General Charles G. Boyd

Historical examples that are easy to follow, easy to locate, and easy to cross-reference, such as those illustrated in Tables 2 and 3, will encourage airmen to pursue further exploratory efforts. The matrix approach depicted in Table 1 appears to offer an ideal approach to choosing a set of such examples to use in illustrating doctrine. This approach can ensure they are selected to comprehensively address the fundamental and operational level doctrinal principles, thus laying a broad foundation of understanding deeply and firmly rooted in history.

If evaluated effectively, a set of historical examples can be selected that will illustrate the Air Force's doctrinal evolution. The set can be used to chart the major points of doctrinal shift as the Air Force “flew” along its flight path through history. In a sense, these shift points are turn points in the air, just as the airborne aircraft follows a flight path plotted on a map which flows in a straight line from one turn point, or plotted set of coordinates, to the next. The use of such key historical illustrations, if well presented, can greatly increase the understandability and memorability of the abstract generalizations

of the Air Force's basic and operational level doctrine. This may well be one of the most significant steps the Air Force can take to aid the promulgation of doctrine within the Service, speeding its inculcation throughout the ranks and promoting the development of a shared set of guiding principles.

But, all airmen must be forewarned, and probably frequently reminded, that such illustrative historical examples do not offer a single, cookie-cutter solution to either today's or tomorrow's air power problems. Lieutenant General John W. Pauly "pointed out that 'experience without theory lacks an adequate frame of reference to accommodate future changes that will surely come.'"¹ Doctrine springs from both the distillation of historical experience and new theoretical constructs, or as one practitioner put it, is "the fusion of experience and judgment [sic]."² The real value of adding historical illustrations is that it clarifies the framework within which current doctrine is likely to remain valid and suggests the limits that define where doctrine may begin to lose its validity. As another Air Force writer further explained, "Doctrine must be at once historical and futuristic. It must be historical to understand how the framework came to be what it is. Once we understand why it has become what it is, we will be able to understand what elements of the framework will need to be changed in order for us to meet the future, to stay ahead of technology, or to change aspects of the present framework that we do not like."³

A robust set of easy-to-use historical illustrations, coupled with a determined, sustained and systematic approach to organize, clarify and reemphasize the Air Force's doctrine can reverse today's anti-doctrinal bias. Cultures are difficult to change, but it can be done. Such a change will provide the Service with airmen who understand the

definition of doctrine, as well as its core and deeper concepts. Then Air Force doctrine may achieve its most prominent goals, as General Fogleman put them, of providing “an integrating framework to tie together the various elements of the Air Force team, to show how these elements work together, and to provide a basis for integrating Airpower with other forms of combat power in joint operations,” and further, “to equip airmen to develop, articulate, and implement” options to achieve military objectives.⁴

The Air Force has made good progress, but if airmen do not keep their institution moving forward, then the 1982 warning that “the most serious problem, however, may be that if we do not develop more historical awareness,” then Air Force “doctrine can lose its basis”⁵ may yet prove true. The Air Force must never let that happen! Now is the time to provide robust historical documentation for its doctrine.

Notes

¹ Lt Gen John W. Pauly, “The Thread of Doctrine,” *Air University Review*, May-June 1976, 3, quoted in Lt Col Dennis M. Drew, “Of Trees and Leaves: A New View of Doctrine,” *Air University Review*, January-February 1982, 42.

² Lt Col Suzanne B. Gehri, “The Air Force Mission,” *Airpower Journal*, Winter 1992, 23.

³ Lt Col L. Parker Temple, III, “Of Machine Guns, Yellow Brick Roads, and Doctrine,” *Airpower Journal*, Summer 1992, 34.

⁴ General Fogleman, 41-43.

⁵ Drew, 48.

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